

In the Claims:

A complete listing of claims in the instant application is provided below as follows:

1 1. (Currently amended) A An underwater power generator for
2 comprising:

3 an underwater vessel that transits for navigating through a
4 body of water in order to transit through an underwater
5 thermocline having a temperature range, said power generator
6 comprising: underwater vessel including a shell;

7 at least a portion of a said shell of an said underwater
8 vessel made from a thermally conductive material, said portion
9 having an outer surface in contact with a surrounding underwater
10 environment the body of water and an inner surface opposing said
11 outer surface and not in contact with said surrounding underwater
12 environment the body of water;

13 a plurality of thermo-to-electric energy converters
14 electrically coupled together, each of said plurality of thermo-
15 to-electric energy converters having a first surface and a second
16 surface with said first surface being thermally coupled to said
17 inner surface of said portion of said shell; and

18 a phase change material thermally coupled to each said second
19 surface of said plurality of thermo-to-electric energy converters,
20 said phase change material having a phase change temperature that
21 is approximately equal to an average of upper and lower
22 temperature extremes of said temperature range of said underwater

23 thermocline, wherein said plurality of thermo-to-electric energy
24 converters generate electrical power as ~~the~~ said underwater vessel
25 navigates through the body of water so that said underwater vessel
26 transits through said underwater thermocline.

1 2. (Currently amended) A An underwater power generator as in
2 claim 1 wherein each of said plurality of thermo-to-electric
3 energy converters is selected from the group consisting of bismuth
4 telluride and bismuth telluride-antimony telluride.

1 3. (Currently amended) A An underwater power generator as in
2 claim 1 wherein said phase change material is a paraffin wax.

1 4. (Currently amended) A An underwater power generator as in
2 claim 3 wherein each of said plurality of thermo-to-electric
3 energy converters is selected from the group consisting of bismuth
4 telluride and bismuth telluride-antimony telluride.

1 5. (Currently amended) A An underwater power generator as in
2 claim 1 further comprising a material structure having tubular
3 passages formed therein and filled with said phase change
4 material, said material structure positioned adjacent said
5 plurality of thermo-to-electric energy converters.

1 6. (Currently amended) A An underwater power generator as in
2 claim 5 wherein said phase change material is a paraffin wax.

1 7. (Currently amended) A An underwater power generator as in
2 claim 6 wherein each of said plurality of thermo-to-electric
3 energy converters is selected from the group consisting of bismuth
4 telluride and bismuth telluride-antimony telluride.

1 8. (Currently amended) A An underwater power generator as in
2 claim 1 wherein said plurality of thermo-to-electric energy
3 converters are electrically coupled together in series.

1 9. (Currently amended) A An underwater power generator as in
2 claim 1 wherein said plurality of thermo-to-electric energy
3 converters are electrically coupled together in parallel.

Claims 10-14 (Canceled)

1 15. (Currently amended) A method of generating power generation
2 underwater comprising the steps of:

3 providing an a navigating underwater vessel in a body of
4 water having an underwater thermocline, the underwater vessel
5 having at least a portion of a shell thereof made from a thermally
6 conductive material, said portion having an outer surface in
7 contact with a surrounding underwater environment the body of
8 water and an inner surface opposing said outer surface and not in
9 contact with said surrounding underwater environment the body of
10 water;

11 providing a plurality of thermo-to-electric energy converters
12 electrically coupled together, each of said plurality of thermo-
13 to-electric energy converters having a first surface and a second
14 surface;

15 positioning said plurality of thermo-to-electric energy
16 converters such that each said first surface is thermally coupled
17 to said inner surface of said portion of said shell;

18 thermally coupling a phase change material to each said
19 second surface of said plurality of thermo-to-electric energy
20 converters, said phase change material having a phase change
21 temperature that is approximately equal to an average of upper and
22 lower temperature extremes of said a temperature range of said
23 underwater thermocline; and

24 transiting navigating the underwater vessel through the body
25 of water in order to transit said underwater thermocline, wherein
26 said plurality of thermo-to-electric energy converters generate

27 electrical power.

1 16. (Currently amended) A method according to claim 15 further
2 comprising the step of continuously repeating said step of
3 transiting navigating.

1 17. (Original) A method according to claim 15 wherein each of
2 said plurality of thermo-to-electric energy converters is selected
3 from the group consisting of bismuth telluride and bismuth
4 telluride-antimony telluride.

1 18. (Currently amended) A power generator as in method according
2 to claim 15 wherein said phase change material is a paraffin wax.

1 19. (Original) A method according to claim 15 further comprising
2 the steps of:

3 providing a material structure having tubular passages formed
4 therein and filled with said phase change material; and
5 positioning said material structure adjacent said plurality
6 of thermo-to-electric energy converters.

1 20. (Original) A method according to claim 19 wherein said phase
2 change material is a paraffin wax.

1 21. (Original) A method according to claim 20 wherein each of
2 said plurality of thermo-to-electric energy converters is selected
3 from the group consisting of bismuth telluride and bismuth
4 telluride-antimony telluride.